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IN THE MATTER OF THE  
APPLICATION OF TUCSON ELECTRIC  
POWER COMPANY FOR APPROVAL  
OF ITS 2011 RENEWABLE ENERGY  
STANDARD AND TARIFF  
IMPLEMENTATION PLAN AND  
REQUEST FOR RESET OF  
RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-01933A-10-0266

THE SOLAR ALLIANCE'S  
COMMENTS ON TEP'S 2011  
IMPLEMENTATION PLAN

The Solar Alliance ("Solar Alliance"), by its counsel undersigned, provides notice of filing the attached comments in the above-referenced matter.

Dated this 15<sup>th</sup> day of November, 2010.

RIDENOUR, HENTON, & LEWIS, P.L.L.C.

By

Scott S. Wakefield  
201 North Central Avenue, Suite 3300  
Phoenix, Arizona 85004-1052  
Attorneys for The Solar Alliance

ORIGINAL and 13 copies filed  
this 15<sup>th</sup> day of November, 2010 with:

Docket Control  
Arizona Corporation Commission  
1200 W. Washington Street  
Phoenix, AZ 85007

Arizona Corporation Commission

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1 COPY of the foregoing HAND-  
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3 Commissioner Kristin K. Mayes, Chairman  
4 Commissioner Gary Pierce  
5 Commissioner Paul Newman  
6 Commissioner Sandra D. Kennedy  
7 Commissioner Bob Stump  
8 1200 W. Washington Street  
9 Phoenix, Arizona 85007

10 Lyn Farmer  
11 Chief Administrative Law Judge  
12 Hearing Division  
13 Arizona Corporation Commission  
14 1200 West Washington Street  
15 Phoenix, Arizona 85007

16 Janice M. Alward, Esq.  
17 Chief Counsel, Legal Division  
18 Arizona Corporation Commission  
19 1200 West Washington Street  
20 Phoenix, Arizona 85007

21 Steven M. Olea, Director  
22 Utilities Division  
23 Arizona Corporation Commission  
24 1200 West Washington Street  
25 Phoenix, Arizona 85007

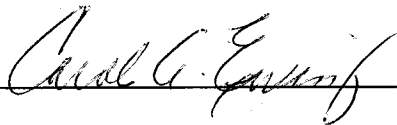
26 COPY of the foregoing  
ELECTRONICALLY TRANSMITTED  
this 15<sup>th</sup> day of November, 2010 to:

Michael W. Patten  
Roshka DeWulf & Patten, PLC  
400 East Van Buren Street, Suite 800  
Phoenix, Arizona 85004  
Email: [mpatten@rdp-law.com](mailto:mpatten@rdp-law.com)  
*Attorneys for Tucson Electric Power Company*

Phillip J. Dion  
Melody Gilkey  
Tucson Electric Power Company  
One South Church Ave., Suite 200  
Tucson, Arizona 85701  
Email: [pdion@uns.com](mailto:pdion@uns.com)  
[mgilke@tep.com](mailto:mgilke@tep.com)  
[mgilkey@tep.com](mailto:mgilkey@tep.com)

1 Court Rich  
2 Rose Law Group, P.C.  
3 6613 N. Scottsdale Rd, Suite 200  
4 Scottsdale, AZ 85250  
5 Email: crich@roselawgroup.com  
6 *Attorneys for Solar City Corporation*

7 C. Webb Crockett  
8 Patrick J. Black  
9 Fennemore Craig, P.C.  
10 3003 N. Central Ave., Suite 2600  
11 Phoenix, AZ 85012-2913  
12 Email: [wcrockett@fclaw.com](mailto:wcrockett@fclaw.com) and [pblack@fclaw.com](mailto:pblack@fclaw.com)  
13 *Attorneys for Freeport-McMoRan Copper*  
14 *& Gold Inc. and Arizonans for Electric*  
15 *Choice and Competition*

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**Docket: Tucson Electric Power's 2011 REST Plan Docket No: E-01933A-10-0266**

The Solar Alliance applauds Tucson Electric Power (TEP) for advancing a plan that not only brings the utility into compliance with the 3% renewable obligation, but also intends to exceed compliance with the 0.75% distributed energy (DG) renewable obligation. The diverse offerings of solar incentive programs laid out in the Renewable Energy Standard Implementation Plan (REST) demonstrate TEP's commitment to advancing all segments of the solar market in Arizona. TEP is clearly looking for methods to improve the smooth implementation of the program, and we thank them and the Commission for their continued efforts to improve these programs.

The member companies of the Solar Alliance look forward to partnering with the utility to ensure that the solar programs offered are successful, and that solar is quickly and cost-effectively deployed across TEP's territory. With that goal in mind, we offer the following comments on TEP's proposed utility-scale, commercial, and residential solar incentive programs/offerings.

**A. Utility Scale Solar Generation - Power Purchase Agreements (PPA)**

In the Plan, TEP proposes to bring online 118 megawatts (MW) of utility scale solar by 2012. Of that capacity, 105 MW will come from power purchase agreements (PPAs) from existing solar projects and projects built in 2011. The bulk of the renewable PPAs were submitted for Commission approval on May 25, 2010. The Commission approved nine PPAs on August 24, 2010, allowing TEP to procure over 105 MW of solar energy by 2012. If the REST Plan is approved and implemented as is, TEP will meet or even exceed their utility-scale RES requirements through 2016, even assuming a 25% attrition rate of projects.

The Solar Alliance offers the following comments on TEPs Power Purchase Agreement Request for Proposal (RFP) Process:

**1) Mechanisms for Reducing Speculators in the RFP Queue**

In the REST plan TEP states that they incorporate a 25% attrition assumption into their PPA RFP process. Market experience indicates such a high attrition rate assumption is excessive. Including such a high number unnecessarily increases perceived risks and ultimately costs. We suggest TEP address such attrition risks by incorporating the following bidding requirements to weed out unviable projects

A developer must meet the following criteria to bid into the TEP RFP process:

- Bonding Requirements – Developer must demonstrate the ability to bond at least up to the minimum security requirements presented in the RFP.
- Project Experience – Developer must demonstrate that it been the lead developer on a project of similar of greater size than what they are bidding for in the PRF.
- Financing by Technology – Developer must demonstrate that the technology being proposed for the RFP is financeable, and that the technology has been developed successfully in TEP territory or in other utility territories.

In addition, if projects do drop out of queue for unforeseen reasons, we suggest a supplemental expedited RFP process to backfill the remaining megawatts.

**B. Utility Scale Solar Generation – Utility-Owned Solar Resources**

TEP states that the remaining 15 MW of their utility scale solar procurement for 2011 will come from TEP-owned renewable facilities. The utility owned solar portion of the plan would satisfy 23% of TEPs utility-scale RES requirement, with the remainder satisfied by the PPAs discussed above. The central portion of the

utility-owned plan is the "Bright Tucson Utility-Owned Solar Plan," which would bring online 7 MW a year for a total of 28 MW by 2014, built between 2011 and 2014. The Bright Tucson Utility-Owned Solar Plan would be procured through a competitive solicitation bidding process.

The Bright Tucson Community Solar Program also appears to be a utility-owned solar program. TEP states that the first 1.6MW of the program will come from TEP owned solar projects, and has not decided whether the remaining capacity will be procured from PPAs or through utility-owned projects.

#### **1. Transparency into Utility-Owned Solar Pricing**

In general, Solar Alliance urges the Commission to investigate the full cost to the rate payers of utility owned projects vs. 3<sup>rd</sup> party developed projects using PPAs. The Solar Alliance suggests that the Commission compare the relative benefits and lifecycle costs of all ownership options, to determine which ownership models result in least-cost solar procurement. Specifically, we ask for an annual report that compares project costs on a per kW basis. Utility-owned projects as well as 3<sup>rd</sup> party developed projects using a PPA should be reviewed. Bids for both types of projects, including highest prices, lowest prices, median price, etc (with bidders private information redacted) should be analyzed. It is imperative that utility administration, labor and other costs be broken out from the bid prices.

### **C. Customer-sited DG Incentive Program - Non-residential Renewable Energy Credit Purchase Program**

The Solar Alliance offers the following comments on TEP's non-residential Renewable Energy Credit Purchase Program (RECPP).

#### **1) Request to Eliminate the 60% Cap on Incentives**

The 60% cap on incentives should be eliminated. <sup>1</sup>The cap was originally intended as a tool to limit the amount of funds per project paid out as incentives.

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<sup>1</sup> A PBI cannot exceed 60% of the real project costs, defined as the undiscounted total system cost plus acceptable financing charges. Acceptable finance charges are finance charges used for the PBI incentive cap calculation and cannot exceed the current prime

However, today sufficient competition in the incentive program exists, and is adequately driving down the price of projects, and thus incentives, at a rapid pace. In effect, the current 60% cap puts the solar developer in a precarious financial situation since a firm, known incentive amount is not known at time of contract signing. Instead, the incentive is arbitrarily capped at 60% of Total Project Value. The Total Project Value, including financing, will not be known until the project is completed. It is difficult, if not impossible, to finance a project when the amount of the incentive isn't known at the outset of construction. We note that APS has proposed to eliminate the cap in their 2011 REST Plan for the same reasons we outline above.

## **2. Workshops to Discuss Overall Non-residential PBI Program Design and Methods for Decreasing Attrition Rate**

The Solar Alliance is concerned about TEP's new proposal to limit the monthly PBI award for the Large Commercial PBI program, and is also concerned that the modest incremental budget proposed for the Large Commercial PBI of \$384,375 may not provide enough funds for TEP to reach compliance with its non-residential DE targets.

The Commission, solar developers, and other stakeholders have expressed concern that the non-residential PBI program was not resulting in a high rate of completed commercial projects, even though there is a long queue. In a filing from the Utilities Division, information is provided on the status of TEP's non-residential incentive program.<sup>2</sup> TEP indicated that in 2010, while 77 non-residential reservations were processed, accounting for 7,186kW of capacity, only 6 applications amounting to 174kW had actually been built by October, 2010.

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*interest rate plus 5%. Financing charges must be disclosed as part of the commissioning package, if not disclosed before."*

<sup>2</sup> Filing from Utilities Division on TUCSON ELECTRIC POWER COMPANY APPLICATION FOR APPROVAL OF ITS 2011 RENEWABLE ENERGY STANDARD AND TARIFF IMPLEMENTATION PLAN (DOCKET NO. E-0 1933A 10-0266). Submitted November 9, 2010.  
<http://images.edocket.azcc.gov/docketpdf/0000119877.pdf>

TEP's 2010 non-residential DE target is 29,208 MWh, and as of November, currently only 4,529MWh are online, or 15% of the requirement. This is not a problem of lack of interest. Applications to the program far exceed available capacity.

We understand that changes proposed last year by TEP and other stakeholders, as well as the recent Commission decision clearing the way for the use of a solar service agreement to finance projects on public buildings, will likely lead to a more successful PBI program. The solar community must have patience as the market responds to these new developments. However, the fact remains that the numbers in this recent filing are troubling, and beg for a stakeholder process to access the program, and determine if changes can be made to decrease the attrition rate, and increase the ratio of approved applications to completed projects. The Solar Alliance calls for a Commission led workshop process focused on the application process, program selection criteria and program management of the non-residential program.

#### **D. Customer-sited DG Incentive Program - Residential Renewable Energy Credit Purchase Program**

##### **1. Improvements to the UFI Program**

The Solar Alliance recommends a specific Residential DE budget of \$15 million every year for the next 5 years for the following reasons.

The residential industry has grown significantly and has seen the cost to deploy on residential rooftops decline in the same fashion. The RES Rules require a certain amount of MWh to be deployed every year, with the largest amount of DG to be deployed by 2012. From 2013 on, there is a significant downturn in the DG deployment because TEP will have met their commitment of 30% and will only need to invest incrementally depending upon their overall retail sales.



If the market knows that this downturn will occur, due to the Commission and TEP only looking at compliance numbers, this will impact the cost of solar, the Arizona industry and its workforce. As the industry deploys more solar we are able to drive down the cost to deploy. If installers know that the number of systems that need to be deployed in the next few years will decrease, so will their desire to hire more people or continue to employ the employees they have. This proposed budget will allow companies to plan for the future. It will allow the industry to plan for growth as opposed to plan for a devastating decline.

The Solar Alliance recommends the following for incentive trigger mechanisms: activate the incentive trigger approximately 30 days after the sum of total reservations reaches 30% of the annual budgeted number on or before the end of the first quarter. Activate another incentive trigger approximately 30 days after the sum of total reservations reaches 60% of the annual budgeted number on or before the end of the second quarter. The industry will rely on the TEP's website and the AZGoesSolar website for year-to-date reservation totals and asks that immediate notification be provided by APS to installers as soon as the 30 days begin.

## **2. Homebuilder Program**

The Solar Alliance is a strong advocate for the inclusion of solar in the new production home environment. 2010 has witnessed a surge of home builder interest in solar in Arizona and TEP's service territory is no exception. The SA would like to see a dedicated set-aside for home builders in TEP's residential budget for home builder PV and SHW REC purchases. The Solar Alliance recommends a set-aside of \$1 million. These funds would be allocated to builders who install solar PV or SHW on homes that qualify for TEP's Zero-Net Energy Homes Program. If a builder was not participating in the Zero-Net Energy Home Program, they could participate in TEP's regular SunShare program budget. The Solar Alliance also recommends the following program offerings:

- Incentive level of \$2/installed watt for the homebuilder – with incentive reductions independent from the other
- Longer reservation periods; 12 months before expiration
- Consideration of marketing incentives to encourage deployment

### **3. SunShare Solar Electric Off-Angle & Shading Annual Energy Derating Chart**

The Solar Alliance appreciates TEP's effort to reward high-performing solar electric power systems with the highest level of incentive through the application of the SunShare Solar Electric Off-Angle & Shading Annual Energy Derating Chart (the "TEP Derating Chart"). However, in an effort to tie TEP's SunShare Program to standard residential building practices and to provide additional continuity to Arizona's myriad of residential REC purchase programs, the Solar Alliance seeks replacement of the TEP Derating Chart with a version similar or identical to the APS PV Off-Angle and Shading Incentive Adjustment Chart (the "APS Derating Chart").

The primary concern for the Solar Alliance is the allowance for residential construction with a 4/12 Roof Pitch (the "Standard Roof Pitch") to qualify for 100% of the available SunShare incentive. The current TEP Derating Chart indicates that an array angle below 20 degrees from the horizontal plane is subject to a 5% decrease in the incentive level. Standard residential construction of a pitched roof provides for, typically, a 4/12 roof pitch. This is equivalent to an array angle of 18.5 degrees above the horizontal plane, thus putting standard residential construction at a disadvantage from the incentive point of view.

In contrast to the TEP Derating Chart, the APS Derating Chart is significantly simplified. It includes a full incentive from 5 degrees to 55 degrees above the horizontal plane within a wide azimuth range. The Solar Alliance believes that the APS Derating Chart is substantially better suited for broader deployment of solar power on Arizona's residential rooftops and therefore recommends that the Commission adopt the APS Derating Chart as the standard derating chart for TEP and all other affected utilities.

### **E. Customer-sited DG Incentive Program - Feed-In-Tariff Pilot Project**

TEP is proposing a Feed-in-Tariff (FIT) pilot program of 1.756MW. Under the plan customers would be offered a 20 year contract in exchange for selling all of their solar power to the utility. Participants will be able to own, lease or have access to the appropriate site as long as the energy produced can bypass local loads, flowing directly into the grid. Projects will be selected based on several factors, including competitive pricing, whether the system is within a constrained micro grid, project viability, and environmental impacts such as water use, local content, and in-service dates. The FIT will offer the following pricing: For 10-100kW the price is \$0.20/kWh (412kW cap), for 101-400kW projects, the price is \$0.18/kWh (572 kW cap), and for 401-750 kW projects the price is \$0.16/kWh (772kW cap).

The Solar Alliance offers the following comments on the Feed-In-Tariff Pilot Project:

#### **1) FIT pilot project pricing structure**

Given the small size of the pilot project, we find the pricing structure appropriate for the first 1.78MW. If the program is expanded, however, the fixed pricing structure should be adjusted annually to reflect the previous year's average of the PBI auction results.

If expanded, the FIT rates should diminish in response to increased volume (MW) participating in the FIT program. The criteria for digression should be transparent, empirical and established well in advance of program implementation. TEP should update the AZ incentives website with frequent refreshed information on the program demand, incentives, and expenditures.

Rates and goals for a FIT should be reviewed when market penetration rates have been met as well as every two or three years. Alternatively, FIT programs can be designed to automatically adjust rates when MW goals have been met,

enabling continuous market growth at a responsible cost without having to revisit rates on a calendar-based schedule.

#### **F. The Plan Budget**

The budget of the plan proposed by TEP is \$37.6M. The proposed plan would raise the current rate caps for residential customers from \$3.20 to \$4.88 a month, while keeping the current rate caps for commercial and industrial customers flat at 2010 rates. Given the potential increase to residential customers, the Solar Alliance urges the Commission to evaluate the following line-items in the budget:

##### **1) Reject TEP's Request for Lost Net Revenue Resulting from DG Deployments and Related Costs**

The Solar Alliance strongly opposes TEP budget line-item request in Exhibit 2 of their supplemental filing calling for \$364,206 for "Loss of revenue from the fixed-cost portion of customer charges displaced by customer self generation." The Solar Alliance urges the Commission to deny approval of the proposed line-item. The Alliance notes that the Commission has not granted lost net revenues as a result of DG deployments to any utility in Arizona, and such a meaningful shift in policy precedent should be thoroughly vetted through a stakeholder process.

##### **2) Appropriate Budget for Research and Development, Metering and IT Expenditures**

TEP proposes that \$5.06 million of the budget go towards expenditures for research and development; metering; and information technology (IT). We find TEP's requested budget for R&D, IT, and metering unnecessarily high. The following line-items expenditures should be closely vetted by the Commission:

- a) **Metering Costs** – TEP proposed \$815K be dedicated to metering, both for direct material cost for meters, and for Meter impact cost analysis. We suggest, particularly for commercial customers, the expected costs built into the metering budget are high, and do not reflect the downward trends in metering technology prices.

Moreover, the proposed metering additions are not clearly merited for TEP to achieve compliance with the REST.

- b) **R&D Expenditures** - TEP proposes a \$1 million budget in 2011 for five R&D projects. The Solar Alliance understands the value of program evaluation to the successful implementation of a program, and we support limited use of the RES funds for research where there is clear value to the program unmet by other sources. The use of ratepayer funds outside of the original intent of complying with the RES statutes is of concern. However, given the potential for overlap or duplication of effort with ongoing or planned R&D projects at other Arizona utilities, utilities in neighboring states that have similar insolation and solar programs, and national studies underway at DOE laboratories, a review of these efforts prior to allocation of such funds to TEP specific R&D would be prudent.

Many of the proposed project descriptions are unclear and duplicative. For example, TEP proposes to use some funds in part to forecast future load growth and profiles, which should be part of TEP's general regulatory obligations, not unique to the REST plans and its budget. In another example, TEP aims to "provide training and testing of new solar products at the Irvington/Sundt test yard... [with] several manufacturers." Moreover, TEP requires UL 1703 and IEEE compliance as a condition of receiving the incentives. It is not clear why this is needed when there is already a wealth of rigorous testing, accreditation, and certification programs in the global and US markets on solar PV products via UL, IEEE, the California Energy Commission, and so on.

Further TEP plans to conduct a study on solar deployment and grid stability. TEP plans to contract with "Utility Solar Engineering" to provide solar generation integration information at a feeder, substation, switchyard and system wide level. The impacts of

distributed generation, including "capacity limitations" will be studied.

We ask that the ACC delay approval of these R&D funds until the obligated utilities form a working group with the ACC and stakeholders to review proposed R&D against that of other entities and to evaluate the unique needs and appropriateness of ratepayer or shareholder resources for these proposed projects. It is our strong preference that funds in the REST budget are primarily directed to the actual incentive programs.

In addition, if the five projects are approved, the Solar Alliance requests appropriate scoping and stakeholder engagement for both the grid stability study and the EPRI study tracks. In particular, we suggest a Technical Review Committee that would include at least one representative from the Distributed Generation community such as the Solar Alliance.

## **2. Appropriate budget for Marketing and Outreach**

TEP proposes \$750k for the marketing and outreach budget, which is more than the utility plans to spend in 2011 on the non-residential Large Commercial PBI program. Given the high demand for incentives in 2010 that are leading TEP and other utilities to install "triggers" to decline the incentives, coupled with TEP's expectation to be in over-compliance with the DG targets, we see minimal need for marketing and outreach at this time. Solar providers already have a vested interest in marketing and have adequate resources at this time.

## **3. Appropriate Budget for Other Non-Essential Programs**

TEP states that it plans to spend \$500,000 for a school vocational program. Assuming all 14 of the largest systems were funded at TEP \$4/watt assumption for its own utility-scale investments that should amount to \$224,000 to \$392,000, not \$500,000.

This concludes our comments on the utility-scale, commercial and residential solar programs offered in TEP's 2011 REST Plan.

Respectfully Submitted on the 15<sup>th</sup> day of November, 2010,

A handwritten signature in black ink, appearing to read "Carrie Cullen Hitt". The signature is fluid and cursive, with the first name "Carrie" being the most prominent.

Carrie Cullen Hitt

President

The Solar Alliance